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ABSTRACT

An assessment was made in 1978 of the longterm effects on school media utilization of Project Discovery (1964-1967), which was designed to test the effect of "maximum availability" of instructional materials on curriculum, on student attitudes, achievement, creativity, and motivation, and on teaching methods and techniques. The project also tested a demonstration model for disseminating information about creative and innovative ways to use instructional media as National Defense Education Act (NDEA) programs began to have an impact on the nation's schools. For this study, the data of the original project were reexamined and visits were made to four of the original sites in Ohio, California, Washington, D.C., and Texas. Observation and interviews with 21 teachers and administrators revealed that Project Discovery had had and continued to have a variety of effects across a broad spectrum of learning issues. Most respondents were convinced that the use of media materials has a positive and lasting impact on teaching, learning, and the school community. Given current priorities, the cost of establishing large, building-level collections similar to Project Discovery was beyond the financial reach of most school districts. Nevertheless, such programs had paid off in increased utilization of media, improved instructional patterns, and satisfactory completion of curriculum and instructional goals. This report includes a number of excerpts from the unstructured interviews and an 18-item reference list. (Author/LHM)

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This report re-examines the data of Project Discovery and its long-term effects on media utilization. The original Project Discovery was supported with funds from the United States Office of Education. Research was conducted by the Agency for Instructional Television. This report was written by Willian D. Taylor and Andy Dipaolo, consultants to AIT.

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Research Report 64

Guidelines to Media Utilization: Lessons from Project Discovery

July, 1978

Agency for Instructional Television
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Bloomington, Indiana 47401

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GUIDELINES TO MEDIA UTILIZATION:
LESSONS FROM PROJECT DISCOVERY

SUBMITTED TO

THE AGENCY FOR INSTRUCTIONAL TELEVISION

BY

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BLOOMINGTON, INDIANA

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Introduction

What are the lasting effects...

--when schools have more than enough media to satisfy instructional and learning needs?

--when teachers and students have immediate access to those materials?

--when teachers and students have been shown how to use media as an integral part of the teaching-learning process?

--when students can take materials and equipment home?

--when teachers make a major commitment to alter their instructional pattern?

--when adminstrative procedures must change to accommodate the above conditions.

Project Discovery was an attempt to find answers to these questions between the years 1964-1967.

Ten years later, our purpose was to re-examine the project data, visit four of the eight project schools in Texas and California and in general take a look at the long-term results of this large scale national demonstration study. This paper records our findings.

Project Discovery was designed to test the effect of "maximum availability" of instructional materials on curriculum, on pupil attitudes, achievement, creativity, and motivation and on teaching methods and techniques.

Four sites were selected to carry out the project. In the fall of 1964, the first project site was established at Mercer Elementary School in Shaker Heights, Ohio. The following year, three more areas were chosen to spread the project to different types of communities with diverse populations. An Eastern urban area, a Southwestern rural site, and a Western middle-class community were selected. Within these, project schools were chosen on the strength of their principals and the cooperative spirit of the staffs. The four final Project Discovery sites were:

1. Mercer Elementary School, Shaker Heights, Ohio. Wealthy, suburban Shaker Heights at that time boasted the highest mean income in the United States and consisted mostly of professionals and executives.

2. Thomas Edison Elementary School, Daly City, California. Daly City is a suburb just south of San Francisco which the Board of Education described at that time as a typical middle income suburban community of businessmen, professionals and skilled workers.

3. Scott Montgomery Elementary School, Washington, D.C. This predominately black neighborhood in Southwest Washington, D.C. was typical of many eastern inner city areas. At that time three quarters of the sector's families were earning less than $3,000 a year and the school was already carrying on special programs under the District of Columbia's Model School Division.

4. Terrell School District, Terrell, Texas. The three elementary and two secondary schools in this semi-rural district 30 miles from Dallas used Project Discovery materials from Head Start through grade 12.

The intent of the project was to saturate these schools with audiovisual equipment and materials, and through carefully designed research, observe and test the behavioral and educational changes of students and staff. The entire film and filmstrip library of Encyclopedia Britannica and selected materials from Films Associates and the National Film Board of Canada were placed in an integrated fashion, on the shelves of the library of every project school as part of a centralized instructional materials collection. Each library included approximately five hundred films and over one thousand filmstrips. Periodically, new materials were evaluated and systematically added to the library of each project school. Bell and Howell provided a 16 mm motion picture projector and a filmstrip projector for each classroom involved in this national study. Additional equipment was made available for individual and small group use within the library and conference room. Projector stands, remote control systems, light control drapes, and permanently mounted wall screens were placed in each classroom where needed. This eliminated all physical deterrents to optimum group and individual utilization practices. The school districts expanded and developed the school libraries to meet the American Association of School Librarians' standards for elementary school libraries, and provided a full-time, professionally trained librarian for each school.

Research Design

In addition to the large commitment made by the commercial firms and the school districts to this project, the United States Office of Education (USOE) also provided substantial funds for a team from Ohio State University to carry out concurrent research. This included a project resident in each school to observe and collect data as the project unfolded.

For the research team, the basic problem was to collect several types of information from an evolving demonstration in the natural setting of the operational schools. Change was to be described but its nature could not be anticipated. Processes were to be described but they would be developing and changing. Impact was to be assessed but its place, nature, and extent was unknown. They could watch and record but it was not yet clear what would occur.

The characteristics of the demonstration made it impossible to impose any controls on the participants. In addition, no information gained was to be given to the participants in order to reduce any influence the study itself might have. The project residents could watch if they didn't interfere, but they could not talk.

Historically, it is important to understand the assumptions and beliefs about instructional media held by many people during the mid-1960s. Research during the 1940s and 1950s convinced many educators of the power of non-print media when used properly in the instructional setting. The National Defense Education Act (NDEA) passed by Congress in the late 1950s provided the funds and focus for what was hoped would be a far reaching rejuvenation of American public education through application of the available technologies. This funding also helped send hundreds of teachers to summer workshops and institutes for training in media production and utilization. In addition to training, provisions of the NDEA provided matching funds and grants to school districts for the purchase of audiovisual equipment and non-print collections.

As NDEA programs began to have an impact in the classroom of the nation's schools, some educators began to ask the inevitable questions, "What if teachers had <u>all</u> the materials and equipment they could possibly use for instruction?" This question grew into the concept known as "maximum availability." The purpose of Project Discovery was to test the effect of "maximum availability" and in addition to test a demonstration model for disseminating information about creative and innovative ways to use the instructional media.

Up to that time studies of the innovation process in agriculture, medicine and, to some extent, education, seemed to indicate that actual demonstration of new practices played a crucial part in producing desired changes. In education particularly, it was deemed important

to encourage demonstrations of new techniques, processes, and materials in order to assist schools and school people in closing the gap between what they were and what they should be in a rapidly changing and increasingly complex society. It was believed that there should be widespread dissemination of information about these demonstrations, and that the characteristics of the demonstrations should be such that they could be transferred into practice in similar school situations. It was felt that demonstration activities are visible and operational, and that educators would adopt those practices which are supported by practical evidence.

Specifically, the project sought:

1. to describe classroom instruction and administrative processes in a demonstration of the use of media.

2. to record positive and negative results of the demonstration and record the rationales for decision-making in the immediate situation.

3. to define the specifics of the immediate situation in a context that permits and encourages generalization to other settings.

4. to describe the evolution of the demonstration and the administrative logistical and process decisions which might enable others to implement the demonstration in other settings.

1964-65 Research Results

The project resident at each site used a variety of techniques during the 1964-65 school year to collect data. These included formal and informal interviews, survey forms, observations, document collection, and record analysis. A total of 17,000 discrete units of information were collected and, in varying degrees, analyzed. No attempt will be made here to report the total findings. Instead, we have synthesized from the literature and reported only those research results that seem to have continuing significance.

Careful records on the use of films of the project written for the U. S. Office of Education by Sidney Eboch and filmstrips during the project were kept and can be found in the final report. Teachers varied tremendously in their employment of the available audiovisual materials, but overall there was a marked increase in the use of media. For example, in the only school where comparable data for a period prior to the project were available, film usage went up 140% during the first year; filmstrip usage went up 220%. The average use per teacher per year across all schools was a remarkable 66 films and 37 filmstrips.

On a questionnaire administered as part of the project, teachers were asked, "What special reactions or changes have you noticed in your students which you would attribute to the use of films and filmstrips this past year?"

--95% of the teachers felt that students showed greater initiative and were more motivated to participate in classroom activities.

--78% of the teachers noted that vocabulary had improved.

--81% felt reading interests had been stimulated.

--85% felt discussion and oral expression had improved.

--92% found that general knowledge had increased.

--52% found independent study to have been stimulated.

--77% noted observation skills had increased.

--52% felt that critical judgments had sharpened.

--47% noted that more reference materials were being used.

--39% thought self-discipline in class had improved.

--23% found attendance had improved.

Teachers were also asked, "Has the availability of the films and filmstrips contributed anything to your personal or professional background?"

--92% of the teachers found that the materials had increased their own personal or professional background.

--63% reported that their knowledge of the whole curriculum had improved.

--82% saw or heard in the films and filmstrips things which changed their ways of teaching or explaining information.

Similar positive responses came on questionnaires administered to principals and students at the end of the research year. Additional conclusions, both positive and negative, were drawn by the research team and are listed below:

1. The project met real needs of teachers. The Teacher Opinionnaire given at the beginning and end of the school year showed a universally high positive reaction to audiovisual aids which was reinforced by the project. Almost all other major aspects of the project received strong support by the participating teachers.

a. Classroom instruction was technically easy. After a one-day workshop with the projection equipment, most teachers were at ease in using classroom projection. Principals and visitors were surprised at the routine nature of classroom projection. At the end of the year, teachers gave a high approval to the projection equipment (filmstrip projectors 89%; motion picture projectors 98%). The minor problems mentioned were typical of all projection equipment. In observed classroom instruction, only 2% of the lessons were delayed because of all technical and environmental problems.

b. The materials library effectively supported instruction. The average teacher was able to use 66 films and 37 filmstrips during the year. At the end of the year, teachers gave a high approval to the available library (filmstrips 89%; films 90%). The major complaint was a lack of additional materials in other subject areas. (More filmstrip materials were requested by 46%; more film materials were requested by 54%).

c. Teachers felt free to use the materials as they wished. A few teachers in one building used no filmstrips. Some teachers in all buildings used less than ten films or filmstrips. Other teachers used more than 100 films or 100 filmstrips. Variations of use levels were evident among teachers in every building and among all buildings.

2. There was a large, persistent and pervasive positive reaction to the project.

a. Faculty and administrator response to the total project was initially enthusiastic and grew more so throughout the period of observation.

b. Faculties and administrators saw many positive effects upon the students' learning environment, including a greater ease of learning and support for more independent study.

c. Other staff members in the schools reflected very positive feelings about the project. Where observable, the reactions of parents, school board members, and the general community were very positive.

3. Teachers were very satisfied with the effects curriculum and instructional goals.

a. The materials were particularly useful in science and social studies. Most teachers (92%) reported being able to enrich and supplement the general curriculum.

b. Teachers at all grade levels reported in interviews, and classroom observations confirmed, that lessons and teaching units became longer with a greater depth of content.

4. Installation required some increase of personnel costs. The personnel time cost of establishing and installing a media library was an unusual expense for a single school building. From 50 to 150 professional work days are not usually available for the development of a single project. The principal needed an instructional media specialist and that sort of help is not available in most single elementary school buildings. Where a media specialist was available to assist the principal, the project still required that the specialist perform tasks beyond his or her regular duties.

5. The work-load of teachers increased because of the required preview time. Although teachers absorbed this increase and could accommodate it more satisfactorily as the year proceeded, some frustration still existed at the end of the year. Adequate use of the media library was probably restricted in part because teachers were unable to preview all of the library. A teacher would have had to preview approximately five items every school day to have seen the complete library by the end of the year.

6. Teachers were not satisfied with the level of media accessibility. Although they overwhelmingly supported the project, 44% to 48% of the teachers reported one or more problems in obtaining materials. The delays in obtaining materials came from simultaneous demand and some "hoarding" of materials (failure to return) by some teachers. Although delays were minimal, particularly when compared with "normal" circumstances, teachers in the project quickly came to expect instant availability and were frustrated by anything less.

Project Discovery - Revisited 1978

A number of reports and journal articles were generated during and immediately following Project Discovery (see bibliography for partial listing). Curiously, we could not locate any published information about the project dated after 1967. If the results were as impressive as the reports indicate, why was interest in the project seemingly dropped? What were the long term effects on the students, teachers, administrators, and schools involved in this project? Now that the excitement has subsided, what can be generalized about the principle of "maximum availability?" What can we learn, if anything, from Project Discovery that will help us make future media innovations more effective?

These were the general areas of concern that prompted our recent visits to four of the eight project schools. Our goal was to interview teachers and administrators who had been involved with Project Discovery. However, because of our time constraints and the relocation of many project participants we were unable to interview as many as we would have liked.

We observed and interviewed 21 teachers and administrators with the intent of developing an understanding of the project and its lingering effects. Those interviewed understood that we were not testing pre-established hypotheses nor judging their past performance. We simply wanted them to tell us in their own words what impact "maximum availability"--this massive infusion of media a decade earlier--had on them and their school.

Below we have excerpted and organized portions of unstructured interviews with project participants. Unstructured interview data is difficult to report and we feel that the approach employed by Keith Mielke in his recent report to Children's Television Workshop is perhaps the most efficient way to report these data. As Mielke says,

> "The interviews tell their own story, filling out a mosaic piece by piece. Intervening content as presented here is paraphrased and edited to get to the point and to fit the requirements of the written medium. Great care has been taken, however, to convey faithfully the ideas, insights, arguments, and recommendations of the interviewees. To enhance the readability of the interview reports, the first-person report form is employed. Again, please keep in mind that this is not a transcript, but a heavily summarized paraphrase." (p. 34)

We believe this method gives a human dimension to the project that might escape with a more structured interview or questionnaire. In the edited paraphrases that follow, we have attempted to remain faithful to the ideas and feelings of those interviewed. Position titles given below were supplied by each person interviewed.

Teacher:

Let me emphasize just one point! Availability means nothing, accessibility is everything! Films are available in the county library--so what? You have to order weeks in advance and there's no guarantee that you'll get them or get them when you need them. For teachers to use media properly and effectively, it must be accessible to them in the building--at arms length. Project Discovery taught me that, and I really believe it!

Assistant Superintendent:

Most districts worry about not having enough materials; we worry about having too much and how to select from what we already have.

Next year we are undertaking the first district-wide curriculum revision since Project Discovery began. The project showed us media worked, and we intend to build media collections to support our new curriculum.

I'm convinced that there is not another district in the state with anything close either to the size of our equipment and material collections or to its use. It's economically impossible today to match what we have here. Bell and Howell put 16 mm and filmstrip projectors in each of our rooms and every machine is still there and working.

We've decided not to go into video since we are a "film district" due to Project Discovery. We probably won't be thinking about ITV as long as we can continue to operate the same way.

Media Specialist:

At our school, the kids are still media oriented and anticipate that media will be an on-going part of their life. They expect to use media as research tools.

We have all of our media catalogued by subject and intershelved. The kids and teachers still find value in most of the films and filmstrips even though some are outdated and just patched together.

Superintendent:

Audiovisual is a way of life to us. Up to 1964, the only person in the entire district to use a projector was one of our agricultural teachers. As teachers were introduced to media in Project Discovery, the first thing they had to learn was equipment operation. This was covered in an extensive in-service program. We held weekly meetings to help teachers find ways of incorporating the media into their lessons. Once teachers got the hang of it, they never returned to teaching without media. You don't drink champagne and then go back to drinking beer.

I feel the benefits of the project were that:

- It helped foster communication between teacher and student.
- When the kids brought materials home, it produced good public relations with the parents. They saw how up to date our schools were.
- Media had the holding power to keep some of our high school kids from dropping out. That figures since non-readers can learn almost as much as readers with visual aids.
- Teachers learned along with kids.
- We were able to recruit better teachers out to our rural community. (Even today we sometimes forget the impact that Project Discovery made on our schools. That is, until a teacher new to our district compares what she had at her old school to the abundance that we have here in this district.)

- All our elementary schools have an extensive library and might not have one if we hadn't participated in the project.

Over the past twelve years, our students have graduated as more than just textbook rote learners. In addition, while our enrollment over the years has gone up only slightly, our teaching staff has doubled. The project helped make us realize that we could do more to help kids learn.

Media Specialist:

Teachers are still using the Project Discovery films and filmstrips every single day. Usually teachers send kids in with notes as to what film they need and in a matter of minutes they're showing it to students. There are 10 second grade teachers, 9 third grade teachers and over 500 kids in this school. Last year we had 1,642 requests for films from our collection. They also used films, of course, from the regional film library.

Principal:

Our first areas of concern were the logistical and administrative problems. No one had ever intershelved non-print media with print materials before in a school library. We developed special racks for displaying the films and filmstrips. As far as I know, we were the first to encourage students to take home films and projectors, allowing parents to become directly involved with their child's education. I think we were the first elementary school to use films and filmstrips in quantity for remediation of poor readers.

We were soon making changes that later became standard for classroom films, such as, putting green leaders at the beginning of films and red tails at the ends to make it easier for teachers and kids to use them. We also developed picture and realia collections to accompany films which created fully integrated media packets for distribution to teachers and students.

Another offshoot from the project was that as teachers previewed the films and viewed them with their classes, they increased their own personal knowledge of the subject matter, which ultimately made them better teachers.

Initially we found some parents opposed to the project since they wondered why we were going to show all those "movies." We invited them to become volunteer teacher aides, and after seeing how the films were integrated into the curriculum, they became some of the strongest proponents of the media program.

There is no way of checking on it now, but I'm sure that standardized test scores went up.

Teacher:

Over a period of time teachers learned the project collection very well which made lesson planning easier. Couple this with having the materials in the building and the idea of the "teachable moment" became reality.

During Project Discovery, teachers took home materials to preview and evaluate. As part of the program, we were requested to evaluate any films we watched. As a result, we as teachers were better prepared for instruction, and even now I will never show a film or filmstrip unless I know what is in it.

The school in which I work now must order all their films from the county library. Often the films aren't available at all or when you want them. That problem didn't exist when I taught at the project school.

Librarian:

As a librarian at the junior high school, I still find students from the Project Discovery elementary school using many more non-print materials more frequently than other kids during lunch hour in the library. These children are actually disseminating media use to their friends. I see it happen every day. They think media!

Principal:

Even today teachers are still using the materials, and I as principal am still protective of our collection. In addition to the continuing heavy use of the project film collection, our teachers also make extensive use of the district media collection and the county film library. In fact, the film librarian has reported to me that for our size we used more films last year than any other school in the entire county. When teachers have been exposed to visual learning, they are more apt to look for other sources of media when it comes to planning for a learning experience.

Librarian:

The most important part of Project Discovery was making teachers aware of materials available to be used as part of the curriculum. This was done through a heavy commitment to in-service which was continued

for years. We still provide all our new teachers a scaled down in-service on how to use the materials and equipment.

I felt that good teachers used the materials effectively, but lazy teachers used them as a crutch. Also I think Project Discovery made no difference at all in students learning. In fact, I think in some cases it hurt kids because media made poor teachers poorer. In our schools the overuse of film, particularly in the social studies area, hurt our students when they went on to other schools. The Project Discovery films are now very dated, particularly in the sciences. However, some kids are still using the project films for independent study and community groups still borrow the films from time to time.

Teacher:

As a result of the materials remaining from the project, kids use much more media in learning and in their own class presentations. They even produce their own media. I don't think that happens at other schools in the district.

Principal:

During the project we made no distinction between the materials available to teachers and the materials available to students. Lessons became so intertwined with the media collection that frequently the film and filmstrips used by teachers during the day were taken home by kids at night to share and review with their parents. In my current position as a middle school principal, I constantly encourage my teaching staff to use media in instruction and for students to use media as

research tools. I feel that while working in the project there was a tremendous teacher use of media, a favorable educational climate, a supportive community and excited kids and I'm still trying to continue that here in this school.

"Maximum Availability" works. Unfortunately, school districts cannot afford to saturate individual school buildings with rich media collections such as we had with Project Discovery.

District Media Director:

We had no idea what impact Project Discovery would have on school libraries, if any. In two years we had over 2,000 people who after visiting here disseminated information about our innovative library practices all over the state. Today, most elementary libraries have plenty of room, scads of software, and unfortunately few professional librarians to make these programs go.

In my opinion, the major impact areas of the project were:

1. It gave us the chance to determine the optimum level of software (and accompanying AV equipment) that should be available in elementary school library/media centers.
2. It gave us the opportunity to re-organize libraries to accommodate non-print materials. We wanted kids to be able to pursue research, using all types of media, and we wanted media about any given subject together on the shelves. As such, we wanted access to those materials through the card catalog. This is all commonplace now, but then it was new and we had to work out all the administrative and logistical procedures for doing it.

3. This was the first time that elementary school students had the opportunity to handle AV materials in quantity and we showed that it could work.

These three areas were a quantum leap over most school districts and the beginning of a number of trends that are taken for granted now.

The project lifted sights and raised expectations of teachers, librarians and school administrators in relation to what media could do for instruction and learning.

The utilization patterns that we refined during those three years are still in place and still working. The bottom line, what we learned during Project Discovery, is this: put it in the building and teachers and kids will use it.

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As the interviews reveal, Project Discovery had and continues to have a variety of effects across a broad spectrum of issues dealing with the learning process. Most teachers and administrators interviewed are convinced that media have a positive and lasting impact on teaching, learning and the school community.

Even though our review up to this point has been brief, it indicates the potential value of undertaking long term follow-up studies of major media innovations. The concept of providing ample materials within easy reach of teachers and students as pioneered in Project Discovery is worth studying in greater depth.

Lessons From Project Discovery

During the three year life of Project Discovery, thousands of educators visited the project schools and observed teachers and students using media in what were then unique ways. Most of these observers had never seen individual students and small groups viewing films and filmstrips, each classroom permanently equipped with projection equipment, a library-media center staffed by a full-time professional coordinating extensive print and non-print collections intershelved for easy access, and students checking out films and projectors for home use.

Media circulation figures indicated that teachers more than doubled their use of films and filmstrips during the project. We realize today that in the mid-60's under the glare of national publicity, teachers participating in Project Discovery made special efforts to integrate non-print materials into their instructional program. We wanted to examine the carry-over results of the project in 1977 when administrators, teachers, and students were no longer motivated by the halo effect. For example, has utilization dropped during the last ten years? Interestingly enough, the rate of film and filmstrip utilization today is just as high as it was during the formal years of the project. It appears this high use has been maintained because teachers have immediate access to extensive collections of non-print media in their own school media center.

During the project 92% of the teachers reported being able to "enrich and supplement" the general curriculum. We noticed in the interviews that teachers and administrators still use the terms "enrich and supplement" to describe their use of media today. Does "enrich and supplement" mean something different than "instruction"? In this case we think not. We found that when teachers have immediate access to instructional materials, those materials become an integral part of day-to-day lesson development. When access to materials is guaranteed rather than promised from an off-campus agency, it appears that a subtle perceptual change occurs with teachers vis-a-vis those materials. The materials are now seen as interrelated components of lesson planning and execution, rather than merely supplemental materials dependent for use on the logistical success of a support system beyond the classroom.

As one Project Discovery school principal told us, "Over a period of time, as teachers became familiar with the collections, lesson planning progressively became an easier process." Teachers we spoke with said that they encountered less frustration in planning instructional units. They found that learning experiences tended to last longer and topics were explored in greater depth when they knew the collection and were confident it was available.

We believe teachers diagnose classroom learning needs in relation to the materials that they feel will meet those needs. The very process of diagnosing those needs depends on the teachers repertoire of instructional solutions. Immediate access means teachers have more effective instructional options at their disposal and the history of Project Discovery shows that they will use those options.

Our investigation of Project Discovery and the decade following supports the notion that teachers make use of those collections closest at hand. For example, in one former project school during 1976-77 teachers used 1,642 films from the building collection for an impressive average of 86 films per teacher.

Once teachers successfully incorporate materials from the building collection into their instructional program, they then begin to search for alternative media resources beyond the building level. One principal reported that the teachers in her school used, in addition to the on-site collection, more films from the regional library than any other school of comparable size in the county.

What is the long term impact on the attitudes of teachers who incorporate non-print media into instruction? Eboch's report for the USOE in 1966 stated, "Teachers' attitudes toward AV media became significantly more positive as a result of Project Discovery." (p. 140) Almost every project participant we spoke with was an advocate of films and filmstrips in learning. These attitudes still apparently pervade the schools, for as new teachers are introduced into the project schools, they in turn become film and filmstrip proponents.

We were surprised at this total commitment to films and filmstrips. One might expect to find the Project Discovery teachers using a diversity of media. Instead, we found that in this instance media innovations did not seem to generalize to other technologies. The project schools have not utilized (and even excluded) other media that have become common during the last ten years, such as games and simulations, and ITV. We had assumed that when teachers make one successful media innovation, then they would be more likely to accept innovations in the future. The

evidence suggests that the opposite may be true--once a school faculty makes a heavy commitment to a particular instructional medium they tend to resist the introduction of others.

Extensive use of media requires more than having substantial in-house collections. In addition to the issues discussed previously, the following items seem to be important considerations for managing media for accessibility:

--A supportive school administrator to make a financial commitment to purchase materials and to support the teaching staff as they attempt change, i.e., "freedom to fail."

--A media professional to work with teachers and students to integrate materials into the curriculum.

--An in-service program is critical if teachers are to experiment with new materials and incorporate them into their on-going instructional behaviors. Project Discovery used extensive in-service activities which allowed teachers the opportunity to share experiences, recommend program revisions, locate shortcomings, and reward successes. Today teachers are perhaps more reluctant to give freely of their time to in-service activities. Yet the need for that in-service remains, and ways must be devised to insure that it occurs.

--A reliable logistical system assuring that materials and equipment are available when teachers and students need them. Teachers and students must have immediate

access to materials; however, the experience of Project Discovery showed that these materials do not need to be stored in the classroom. Immediate accessibility means having the materials in the building. This requires a centralized library or media center where materials are catalogued, stored, and available for immediate distribution to both teachers and students. Project Discovery media centers included intershelving of print and non-print materials, adequate display areas, browsing spaces and preview facilities.

Today many, perhaps most, elementary schools in the United States have a central library or media center. Project Discovery fostered this notion and showed its value. Unfortunately, these facilities frequently lack a professional staff member and are therefore staffed by paraprofessionals and volunteer parent aides. Because of this, entering instructional products must be packaged in such a way that non-professionals can feed them smoothly into the existing distribution system of the school.

Although we feel that effective utilization does not require storage of materials in the classroom, it is our opinion that the success of Project Discovery was partially based upon the fact that reliable equipment was kept in each classroom. Teachers became familiar with "their equipment" which in turn diminished many latent fears that teachers typically associate with electronic technology.

Given current priorities, the cost of establishing large building level collections similar to Project Discovery is beyond the financial reach of most school districts. Every school administrator we talked

with commented on the high cost associated with attempting to duplicate Project Discovery elsewhere. As a result of the current financial squeeze, they have not attempted to extend their collections, they have not maintained their commitment to professionally trained media personnel, and they no longer allow students to take projectors and films home (the cost of equipment repair is prohibitive).

Nevertheless, according to the Project Discovery participants that we interviewed, "maximum availability"--teachers and students having in their building immediate access to all the materials and equipment needed for an effective educational program--pays off in increased utilization of media, improved instructional pattern and satisfactory completion of curriculum and instructional goals. Unfortunately while the concept of "maximum availability" was right, the film technology was, and still is, too expensive. In effect the concept was right but the technology was wrong.

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